

REMARKS AND DISCUSSION

Upon entry of the present amendment, Claims 1-11 remain in the application, of which, Claims 1 and 3 are independent. Claims 6, 8 and 9 have been withdrawn by the Examiner in connection with a previously imposed Restriction Requirement.

The above-identified Office Action has been reviewed, the references carefully considered, and the Examiner's comments carefully weighed. In view thereof, the present amendment is submitted. It is contended that by the present amendment, all bases of rejection set forth in the Office Action have been traversed and overcome. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Claim Rejections

35 USC § 101 Issues

In item 12 of the referenced Office Action the examiner rejected Claim 7 under 35 USC § 101. Applicant respectfully traverses this ground of rejection, and requests reconsideration and withdrawal thereof.

However, in order to expedite prosecution of the application, applicant has amended Claim 7 herein, in accordance with the recommendations made by the Examiner in item 12, to include the phrase “recorded on a computer-readable medium”. Accordingly, applicant respectfully requests that the rejection be reconsidered in light of the amendments.

35 USC § 102 Issues

In item 14 of the referenced Office Action, the Examiner rejected Claim 1 under 35 USC § 102(b) as anticipated by Taniguchi. Applicant respectfully traverses this ground of rejection, and requests reconsideration and withdrawal thereof.

Upon careful review of the disclosure of Taniguchi, applicant respectfully submits that the Examiner's rejection of Claim 1 is not justified, because Taniguchi fails to disclose several required features of the claimed method. Specifically, we note that Taniguchi's projection exposure apparatus/method pertains to calculating displacement and providing alignment of substrate and/or reticals, and does not appear to pertain to applicant's claimed method of measuring a position of an object according to an image of the object captured by a camera unit. We also note that Taniguchi's disclosure lacks any reference to a camera unit.

For example, Taniguchi discloses a projection exposure apparatus, and method for exposing a pattern image formed on a mask on a photosensitive substrate W. The projection exposure apparatus includes a substrate position detector that detects a position of a registration mark formed on the substrate W, and an imagery characteristic correction mechanism coupled with a projection optical system PL that drives the projection optical system PL to correct an imagery characteristic of the projection optical system PL.

The projection exposure apparatus of Taniguchi also includes an image-forming displacement detector communicating with the imagery characteristic correction mechanism that

determines a displacement amount of an image-forming position of the projected image formed through the projection optical system in accordance with a driven amount of the projection optical system by the imagery characteristic correction mechanism, and an alignment signal processor 24 communicating with the substrate position detector and the image forming displacement detector. The alignment signal processor 24 corrects the detection result of the substrate position detector based on the displacement amount of the image-forming position obtained by the image-forming displacement detector.

Thus, Taniguchi fails to disclose calculating a discrepancy of an incident beam of light penetrating a lens system of the camera unit relative to an optical center of the lens system; and compensating the position of the object according to the discrepancy. Rather he discloses aligning the reticle and/or wafer via a XY-stage for aligning the projection of the image formed on reticle with that of the pattern image formed on the substrate.

However, although Applicant disagrees with the Examiner's rejection of claim 1, in order to expedite the prosecution of the application, Applicant has amended claim 1 to further define the claimed invention over the disclosure of Taniguchi, by specifying that a distance between the camera and the object is not known prior to measuring the position of the object. Accordingly, applicant respectfully requests that the rejection be reconsidered in light of the amendments.

In item 15 of the Office Action, the Examiner rejected claims 2, 3, 5, and 7 under 35 USC §102(b) as anticipated by Tanabata et al. Applicant respectfully traverses this ground of rejection,

and requests reconsideration and withdrawal thereof. Applicant notes that the present invention is different from the disclosure of Tanabata et al. For example, the distance measuring apparatus of Tanabata et al. includes a mask for restricting light so as to pass through two or more different light passing positions, and a lens system for focusing the light passed through the mask. The mask restricts the light so as to pass through only specified positions. Whereas, in the present invention, a plate glass without having any opening therein is used through which incident beam of light passes before penetrating the lens system of the camera unit.

In order to expedite prosecution of the application, Applicant has amended Claims 2, 3 and 7 by the present amendment, in order to further distinguish the claimed invention over the disclosure of Tanabata et al. Claim 5 is dependant upon Claim 3 and is therefore allowable with no amendment required. Accordingly, applicant respectfully requests that the rejections be reconsidered in light of the amendments.

35 USC § 103 Issues

In item 17 of the referenced Office Action, the examiner rejected Claims 10 and 11 under 35 USC § 103(a) as unpatentable over the combination of Taniguchi and Tanataba et al. Applicant respectfully traverses this ground of rejection, and requests reconsideration and withdrawal thereof. Applicant notes that the present invention is different from the systems of Tanabata et al. and Taniguchi. For example, in the system of Tanabata et al., the incident beam of light passes through a mask; whereas in the system of Taniguchi, the incident beam of light

passes through a reticle. On the other hand, according to the present invention, the incident beam of light passes through a plate glass.

In order to expedite prosecution of the application, Applicant has amended Claims 10 and 11 to further define them over the applied references, by specifying that the image is captured without any mask restricting an incident light beam, as shown in the claim amendments above. In addition, Claims 10 and 11 are dependent upon Claim 1 which has also been amended as described above. Accordingly, applicant respectfully requests that the rejection be reconsidered in light of the amendments.

In item 18 of the referenced Office Action the examiner rejected Claims 4 under 35 USC § 103(a) as unpatentable over the combination of Tanabata et al. and Day et al. Applicant respectfully traverses this ground of rejection, and requests reconsideration and withdrawal thereof.

In order to expedite prosecution of the application, Applicant has amended Claim 3, as described above, from which Claim 4 is dependent. Accordingly, applicant respectfully requests that the rejection of Claim 4 be reconsidered in light of the amendment to Claim 3.

Conclusion

Applicant respectfully suggests that as presently amended, all of the pending claims are believed to be allowable.

It is applicant's contention that no possible reading of the references, either singly or in

any reasonable combination, can be viewed as teaching applicant's claimed invention.

For all of the above mentioned reasons, applicant requests reconsideration and withdrawal of the rejections of record, and allowance of the pending claims.

Applicant respectfully submits that all of the above amendments are fully supported by the original application. Applicant also respectfully submits that the above amendments do not introduce any new matter into the application, as all of the subject matter thereof was expressly or inherently disclosed by the original specification.

Favorable consideration is respectfully requested.

Respectfully submitted,



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25 July 2007

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